Amendments to the Claims:

Please cancel Claim 58. Please amend Claims 1, 4-5, 7-8, 23, 28, 37-38, and 45-46. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing:

1. (Currently Amended) A system for converting sensed force or mechanical motion into corresponding electrical signals, comprising:

a sensor providing an electrical signal as a function of sensed force or mechanical motion;

an electronic circuit (i) electrically coupled to the sensor to receive the electrical signal as an input and (ii) including at least two channels with high input impedance receiving the electrical signal at a node coupled to the output of the sensor, each channel (a) including a filter to filter the received electrical signal and provide respective (b) outputting a corresponding filtered electrical ~~signals as outputs, at least one of said at least two channels essentially directly coupled to the sensor~~ signal as an output.

2. (Previously Presented) The system as claimed in Claim 1, wherein said at least one of said at least two channels includes a low-pass filter and the other of said at least two channels includes a high-pass filter.

3. (Previously Presented) The system as claimed in Claim 2, wherein the low-pass filter passes frequencies in a linear region of the sensor and the high-pass filter passes a resonance frequency of the sensor.

4. (Currently Amended) The system as claimed in Claim 1, wherein the filters in said at least two channels ~~further include an amplifier~~ to filter and amplify the electrical signal.

5. (Currently Amended) The system as claimed in Claim 1, wherein the filters in said at least two channels ~~further include an amplifier and offset circuit~~ to filter, amplify and offset the electrical signal.

6. (Previously Presented) The system as claimed in Claim 1, wherein inputs to said at least two channels are electrically isolated from one another.

7. (Currently Amended) The system as claimed in Claim 1, wherein the electronic circuit ~~further~~ at least one of said at least two channels includes a buffer to isolate the inputs of said at least two channels from one another.

8. (Currently Amended) The system as claimed in Claim 7, wherein the buffer is electrically disposed in at least one of said at least two channels ~~between the sensor and at least one of the channels~~.

9. (Previously Presented) The system as claimed in Claim 8, further including at least one high impedance element to provide the output electrical characteristics of the sensor to channels not coupled directly to the sensor.

10. (Original) The system as claimed in Claim 7, wherein the buffer is arranged in a source follower configuration.

11. (Original) The system as claimed in Claim 7, wherein the buffer employs an operational amplifier.

12. (Previously Presented) The system as claimed in Claim 7, wherein one of the channels includes a low-pass filter and power is supplied to the buffer by the output of the low-pass filter.

13. (Previously Presented) The system as claimed in Claim 1, wherein the channels have an input impedance greater than 10 Mohm.

14. (Withdrawn) The system as claimed in Claim 1, wherein the filters use a JFET transistor to amplify the electrical signal.

15. (Withdrawn) The system as claimed in Claim 1, wherein the filters use at least one JFET transistor to decrease temperature dependence of characteristics of the filters.

16. (Withdrawn) The system as claimed in Claim 1, wherein the filters have low output impedance.

17. (Withdrawn) The system as claimed in Claim 1, wherein the filters use at least one transistor to provide low output impedance.

18. (Withdrawn) The system as claimed in Claim 1, wherein the filters use a Darlington combination of transistors to provide low output impedance.

19. (Withdrawn) The system as claimed in Claim 1, wherein the filters use a Darlington transistor to provide low output impedance.

20. (Previously Presented) The system as claimed in Claim 1, wherein at least one of the channels include a passive low-pass filter circuit.

21. (Previously Presented) The system as claimed in Claim 1, wherein at least one of the channels includes a passive high-pass filter circuit.

22. (Original) The system as claimed in Claim 1, wherein the sensor is a piezoelectric sensor.

23. (Currently Amended) A method for converting sensed force or mechanical motion into corresponding electrical signals, comprising:

providing a sensor generating an electrical signal as a function of sensed force or mechanical motion;

at a node coupled to the output of the sensor, channelizing the electrical signal into at least a first channel and a second channel with high input impedance;

in the channels, filtering the electrical signal into a first respective frequency band bands ~~and a second frequency band, respectively, the channelizing~~ including essentially ~~directly channelizing the electrical signal into at least one of the~~ channels; and

outputting the filtered electrical signals ~~signal in the first frequency band and the second frequency band independently~~.

24. (Original) The method as claimed in Claim 23, wherein said filtering the electrical signal includes low-pass filtering the electrical signal.

25. (Original) The method as claimed in Claim 23, wherein said filtering the electrical signal includes high-pass filtering the electrical signal.

26. (Original) The method as claimed in Claim 23, wherein said filtering the electrical signal includes filtering and amplifying the electrical signal.

27. (Original) The method as claimed in Claim 23, wherein said filtering the electrical signal includes filtering, amplifying, and offsetting the electrical signal.

28. (Currently Amended) The method as claimed in Claim 23, further including isolating the electrical signal in a manner allowing for independent filtering of the ~~first and second~~ frequency bands.

29. (Original) The method as claimed in Claim 28, wherein said isolating includes buffering the electrical signal.

30. (Original) The method as claimed in Claim 29, further including conditioning the electrical signal prior to filtering the electrical signal into at least one of the frequency bands.

31. (Original) The method as claimed in Claim 29, further including employing a single power source to provide power for the buffering.

32. (Previously Presented) The method as claimed in Claim 23, wherein said filtering the electrical signal includes an impedance greater than 10 Mohm for sensing the electrical signal.

33. (Withdrawn) The method as claimed in Claim 23, wherein said filtering the electrical signal includes decreasing temperature sensitivity.

34. (Withdrawn) The method as claimed in Claim 23, wherein said outputting the electrical signal includes providing the electrical signal in said at least first and second frequency bands with a low output impedance.

35. (Original) The method as claimed in Claim 23, wherein said filtering the electrical signal includes passive low-pass filtering.

36. (Original) The method as claimed in Claim 23, wherein said filtering the electrical signal includes passive high-pass filtering.

37. (Currently Amended) A system for converting sensed force or mechanical motion into ~~corresponding~~ electrical signals, comprising:

means for providing an electrical signal as a function of sensed force or mechanical motion; and

at a node coupled to the output of said means for providing the electrical signal, means for channelizing said electrical signal into at least two channels with high input impedance, said means for channelizing including means for filtering the electrical signal; ~~said means for channelizing including essentially directly channelizing said electrical signal into at least one of said two channels.~~

38. (Currently Amended) An electronic circuit for processing an electrical signal corresponding to a sensed force or mechanical motion, comprising:

a circuit input, adapted to be coupled to the output of a sensor and to receive an electrical signal corresponding to the sensed force or mechanical motion; and

at least two filter modules with high input impedance adapted to be coupled to the circuit ~~input to filter~~ output of a sensor providing the electrical signal, said at least two filters filtering the electrical signal into respective frequency bands and provide providing respective filtered electrical signals on respective circuit outputs; at least one of said at least two filter modules being essentially directly coupled to the circuit input.

39. (Original) The electronic circuit as claimed in Claim 38, wherein said at least two filter modules include a low-pass filter.

40. (Original) The electronic circuit as claimed in Claim 38, wherein said at least two filter modules include a high-pass filter.

41. (Original) The electronic circuit as claimed in Claim 38, wherein said at least two filter modules filter and amplify the electrical signal.

42. (Original) The electronic circuit as claimed in Claim 38, wherein said at least two filter modules filter, amplify, and offset the electrical signal.

43. (Original) The electronic circuit as claimed in Claim 38, wherein respective inputs of said at least two filter modules are electrically isolated from one another.

44. (Original) The electronic circuit as claimed in Claim 38, further including a buffer to isolate respective inputs of said at least two filter modules from one another.

45. (Currently Amended) The electronic circuit as claimed in Claim 44, wherein said buffer is electrically disposed in at least one of said at least two filter modules between said ~~circuit input and at least one of the inputs of said at least two filter modules~~.

46. (Currently Amended) The electronic circuit as claimed in Claim 45, further comprising at least one impedance element ~~to provide~~ that provides the electrical characteristics observed by said circuit input to filter modules including said buffer ~~not coupled directly to said circuit input~~.

47. (Original) The electronic circuit as claimed in Claim 44, wherein said buffer is arranged in a source follower configuration.

48. (Original) The electronic circuit as claimed in Claim 44, wherein said buffer employs an operational amplifier.

49. (Original) The electronic circuit as claimed in Claim 44, wherein one of said at least two filter modules is a low-pass filter and power is supplied to said buffer by an output of said low-pass filter.

50. (Previously presented) The electronic circuit as claimed in Claim 38, wherein at least one of said at least two filter modules has an input impedance greater than 10 Mohm.

51. (Withdrawn) The electronic circuit as claimed in Claim 38, wherein at least one of said at least two filter modules uses a JFET transistor to amplify the electrical signal.

52. (Withdrawn) The electronic circuit as claimed in Claim 38, wherein at least one of said at least two filter modules uses at least one JFET transistor to decrease temperature sensitivity of characteristics of the filter module.

53. (Withdrawn) The electronic circuit as claimed in Claim 38, wherein at least one of said at least two filter modules has low output impedance.

54. (Withdrawn) The electronic circuit as claimed in Claim 53, wherein at least one of said at least two filter modules uses at least one transistor to provide the low output impedance.

55. (Withdrawn) The electronic circuit as claimed in Claim 53, wherein at least one of said at least two filter modules uses a Darlington combination of transistors to provide the low output impedance.

56. (Original) The electronic circuit as claimed in Claim 38, wherein at least one of said at least two filter modules includes a passive low-pass filter circuit.

57. (Previously Presented) The electrical circuit as claimed in Claim 38, wherein at least one of said at least two filter modules includes a passive high-pass filter circuit.

58. (Cancelled)